Yahia Salman

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EDUCATION

George Mason University — Fairfax, VA
Bachelor of Science in Computer Science and Physics — *Aug. 2022 – May 2026*

- High score on the 2023 Putnam Exam (Score: 9), 2x **AIME** Qualifier, GMU **Calculus Olympiad Finalist**
- 2022 Winter **Research Exhibition Invitee** for work on optimizing Neural Networks using Quantization

EXPERIENCE — AVAILABILITY SUMMER 2025: MAY 10 - AUG. 20

Stellar Heal | stellarheal.com — July 2024 – Present
Backend Developer — *Cambridge, MA*

- Implemented task based queue algorithm that delays specific database operations and improved the speed of user to AI interaction by over 50%.
- Developed the journey module to generate new AI generated modules from a custom knowledge-base embedded LLaMa-3B model.

Agillaire | IBM — August 2024 – Present
Machine Learning Engineer — *Dallas, TX*

- Worked with IBM Innovation Labs lead AI team to develop GenAI model for coding pathology lab reports.
- Created Machine Learning models to classify different medical documents and then extract information from the PDFs using a novel OCR paradigm.

Cloud Native Compliance Maven (CNCM LLC) — April 2024 – August 2024
Software Engineering Intern — *Remote*

- Utilized **LangChain** to develop an LLM using knowledge base embedding that increased the speed of cyber-compliance instruction generation by 70%.
- Utilized **Python** and **TensorFlow** for model development and **AWS's E2 Servers** for deployment, ensuring scalability and performance.

PUBLICATIONS

[1] **Salman, Y.**, Irfan, M., Shike, M., Lee, S. J., & Salman, A. (2024). Real-time emotion recognition for companion robots using deep learning and edge computing. Will be in conference proceedings of International Symposium on Networks, Computers and Communications (*IEEE ISNCC*).

PROJECTS

NeuroNavigate - BitCamp Winner | *Python, Flask, OpenCV, Mediapipe, VGG19, Whisper* — April 2024

- Developed an educational app to support children with autism in conversation skills and emotional intelligence.
- Integrated **Python**, **Flask**, **OpenCV**, and **Mediapipe** for facial and eye tracking, enabling real-time feedback.
- Implemented a **VGG19** neural network trained on the **FER-2013** dataset for accurate emotional recognition from grayscale images.

REPS - HackFax Finalist | *Python, Flask, OpenCV, MongoDB, Swift UIKit* — February 2024

- Developed a comprehensive fitness app that records real-time workouts, utilizing an AI Pose Detection module to accurately track exercises such as push-ups and overhead presses.
- Engineered a novel algorithm with **OpenCV** for precise exercise detection, enhancing user experience by allowing selection of various exercises.

TECHNICAL SKILLS

Languages: Java, Python, Swift, SQL (MySQL, PostgreSQL), C++, DynamoDB, JavaScript, TypeScript, HTML/CSS
Frameworks: React.js, Node.js, Django, Flask, FastAPI
Developer Tools: Git, AWS, Google Cloud Platform
Libraries: Tensorflow, Pandas, NumPy, Matplotlib, OpenCV, Sci-Kit Learn, Celery, pydantic